

Owners

Guide

and

Installation

Instructions



Gas - Electronic Instantaneous



Install a Rheem

*This water heater must be installed and serviced by an authorised person.
Please leave this guide with the householder.*

PATENTS

This water heater may be protected by one or more patents or registered designs in the name of Rheem Australia Limited, Southcorp Australia Pty Ltd or Paloma Industries Ltd.

Southcorp Water Heaters Australia is the supplier of the Rheem integrity range of electronic instantaneous gas water heaters, manufactured by Paloma Industries Ltd, a world leader in water heater technology and manufacture.

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The other pages are intended for the installer but may be of interest.

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ABOUT YOUR WATER HEATER

MODEL TYPE

Congratulations for choosing a Rheem integrity electronic instantaneous gas water heater. The model you have chosen is for outdoor installation only. The water heater operates automatically. When a hot tap is opened, the gas burners ignite to provide immediate heating of the water. The gas burners extinguish when the hot tap is closed.

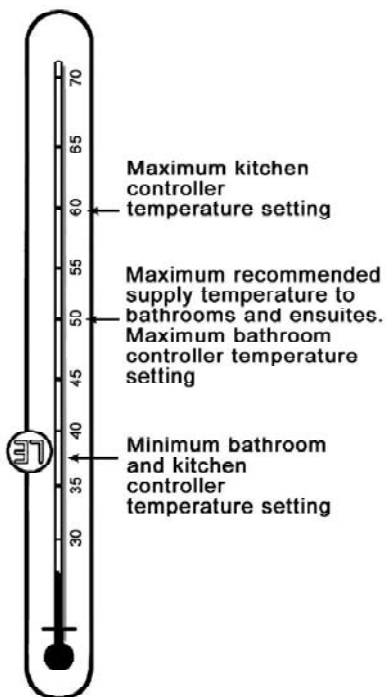
HOW HOT SHOULD THE WATER BE?

This type of water heater operates on the principle of heating water as it passes through the water heater. The outlet temperature is selected by the user at the controller (if installed). If a controller is not installed, the water heater defaults to the preset outlet temperature. The temperature is then kept constant by the automatic adjustment of the burner input and water flow rate (refer to Temperature Control on pages 7 to 13).

Note: The preset outlet temperature setting of this water heater cannot be adjusted by the householder. This setting can only be adjusted by Southcorp Water Heaters Australia or their Accredited Service Agent.

HOTTER WATER INCREASES THE RISK OF SCALD INJURY

We recommend, and it may also be required by regulations, that an approved temperature limiting device be fitted into the hot water piping to the bathroom and ensuite. This will keep the water temperature below 50°C at the bathroom and ensuite. The risk of scald injury will be reduced and, if a Kitchen controller is installed, still allow hotter water to the kitchen and laundry.



TO TURN OFF THE WATER HEATER

If it is necessary to turn off the water heater, such as when going on vacation:

- Turn off the water heater using the “on/off” button on the controller/s (if fitted).
- Close the gas and water isolation valves at the inlets to the water heater.
- If the water heater does not have frost protection, switch off the electrical supply at the power outlet to the water heater.

Note: The electrical supply should not be switched off for models fitted with frost protection, unless the water heater is drained. Otherwise damage could result from freezing conditions (refer to Frost Protection and Draining the Water Heater on page 6).

ABOUT YOUR WATER HEATER

TO TURN ON THE WATER HEATER

If the water heater has been drained, screw in the drain plugs at the cold water inlet and hot water outlet of the water heater and open all of the hot water taps in the house (don't forget the shower). Open the cold water isolation valve fully at the inlet to the water heater. Air will be forced out of the hot taps. As water flows freely from each tap, close it. Open the gas isolation valve fully at the inlet to the water heater, plug the water heater power lead into the electrical outlet and switch on. Turn on the water heater at the controller (if fitted). The water heater will then operate automatically when you open a hot tap.

GENERAL MAINTENANCE

The jacket of the water heater can be cleaned with a soft cloth and warm mild soapy water. Under no circumstances should abrasive materials or powders be used. Ensure the water heater flue terminal and air inlet are not obstructed in any way at any time.

The water heater should be serviced annually by Southcorp Water Heaters Australia or their Accredited Service Agent. Only genuine replacement parts should be used with this water heater.

SAFETY INSTRUCTIONS

Propane models are designed to operate on Propane only. The use of Propane/Butane mixture such as automotive LPG fuel is unsafe and can cause damage to the water heater.

Do not store or use chemicals or flammable materials near the water heater.

Do not spray aerosols near the water heater.

Do not place anything on top of or against the water heater, or in contact with the flue terminal.

The flue gases and the flue terminal on the water heater are hot when the water heater is operating. Keep clear of this area to avoid burns.



ELECTRICAL POWER

The water heater uses 240 volt AC electrical power for operation of the control systems and the combustion fan. The power lead from the water heater must be plugged into a weatherproof electrical outlet. Take care not to touch the power plug with wet hands.

ABOUT YOUR WATER HEATER

FROST PROTECTION

The water heater may have frost protection. Refer to the rating label on the water heater. The frost protection system will protect the water heater from damage, by preventing ice forming in the waterways of the water heater, in the event of freezing occurring. Models without frost protection are not covered under warranty for damage caused by freezing.

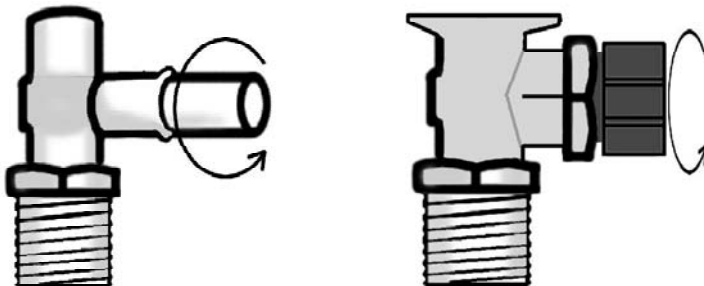
Notes:

- If it is necessary to switch the power off to the water heater and there is a risk of freezing, then it is necessary to drain the water heater (refer to Draining the Water Heater on page 6).
- The frost protection system will be rendered inoperable if electrical power is not available at the water heater. Damage caused by freezing due to the unavailability of power at the water heater, is not covered by warranty.
- Pipe work to and from the water heater must be adequately insulated to prevent freezing.
- The water heater is not suitable for installation in areas where the ambient temperature falls below -20°C (including wind chill factor).
- Refer to Warranty Exclusions on page 28.

DRAINING THE WATER HEATER

- Turn off the water heater (refer to Turn Off the Water Heater on page 4).
- Open a hot tap (preferably the shower outlet).
- Unscrew the two drain plugs, one each at the cold water inlet and hot water outlet, on the underside of the water heater. Water will drain from the water heater.
- When water stops flowing from the water heater, close the hot tap.

Note: It is recommended not to screw the drain plugs back in, until the water heater is to be turned on again.



TEMPERATURE CONTROL

Rheem controllers enable the user to control the temperature of the delivered water from the outlet of the water heater. There are three controllers suitable for installation with this water heater. They are the Kitchen controller, Bathroom1 controller and Bathroom2 controller. One, two or three controllers can be installed. A Bathroom2 controller can only be installed if a Bathroom1 controller is installed. Only one of each type of controller can be connected to the water heater.

The temperature settings of each type of controller are:

Bathroom1 & 2	37°C to 46°C (in 1°C increments), 48°C, 50°C.
Kitchen	37°C to 46°C (in 1°C increments), 48°C, 50°C, 55°C, 60°C.

The installation of Bathroom controller/s only (ie. no Kitchen controller) limits the outlet temperature of the water heater to a maximum of 50°C, regardless of the preset outlet temperature of the water heater. If Rheem controllers are not installed, the water heater defaults to the preset outlet temperature. Other manufacturers' controllers cannot be installed with this water heater.

TEMPERATURE ADJUSTMENT

- A controller must be on and have priority to be able to adjust the temperature setting.
- The temperature adjustment is made by pressing the up (▲) button or down (▼) button.
- The maximum temperature setting for the Kitchen controller is 60°C and for the Bathroom controllers is 50°C.
- Each press of the up (▲) button will increase the temperature setting by one increment.
- Pressing the up (▲) button continuously will scroll the temperature setting up to a maximum 43°C if hot water is flowing or 45°C if no hot water is flowing.
- The temperature setting cannot be increased above 43°C whilst hot water is flowing.
- From the 45°C setting, the up (▲) button must be pressed once for each increase in increment.
- The minimum temperature setting for each type of controller is 37°C.
- Each press of the down (▼) button will decrease the temperature setting by one increment.
- Pressing the down (▼) button continuously will scroll down the temperature setting.
- The temperature setting can be decreased from any temperature setting whether the hot water is flowing or not.

TEMPERATURE CONTROL

FUNCTIONS OF ALL CONTROLLERS

If one or more controllers are installed, at least one must be on for the water heater to operate. If all controllers are off, the water heater will only deliver cold water.

- on/off button** – This button must be pressed once to turn on the controller. The light in the button will glow when the controller is on. A controller cannot be turned on if water is flowing from a hot tap. To turn off a controller, press the on/off button once. The light will go out. A controller can be turned off whilst water is flowing.
- priority light** – This light will glow on a controller when that controller has priority. Priority means that controller has control of the water heater temperature setting. The water temperature setting can only be adjusted by the controller that has priority.
- in use light** – This light will glow on all controllers, whether they are on or off, when hot water is flowing, regardless of which controller has priority.
- display panel** – The current temperature setting is displayed on all controllers (whether hot water is flowing or not), when any controller is on. If all controllers are off, then the display remains blank. The water volume can also be displayed on the Kitchen controller. The x10l symbol glows when the water volume is displayed.
- ▲ (up button)** – The up button increases the temperature setting (refer to Temperature Adjustment on page 7).
- ▼ (down button)** – The down button decreases the temperature setting (refer to Temperature Adjustment on page 7).
- water volume button** (Kitchen controller only) – This feature enables an alarm to sound when a set volume of water has flowed through the water heater (refer to Water Volume Function on page 12).

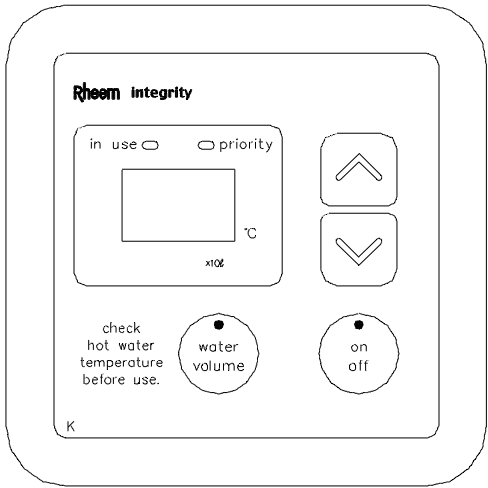
SILENCING A CONTROLLER

The controller emits a sound whenever a button is pressed. This sound can be turned off to provide silent operation. To turn off the sound:

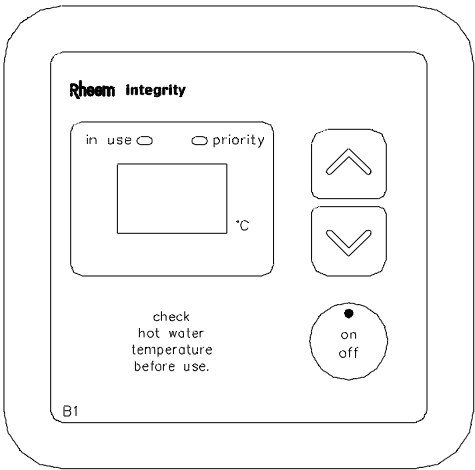
- Press the on/off button, to deactivate the controller (on/off light is off).
- Press and hold the up (▲) button.
- Press the on/off button, whilst the up (▲) button is pressed.

The sound for the controller is deactivated. Repeat this procedure if you wish to deactivate the sound on the other controllers. To restore the sound, repeat this procedure.

TEMPERATURE CONTROL



KITCHEN CONTROLLER



BATHROOM CONTROLLER

TEMPERATURE CONTROL

KITCHEN CONTROLLER

The Kitchen controller allows the user to select the temperature setting for the hot water to be used in the kitchen and laundry. It has a maximum temperature setting of 60°C and a minimum temperature setting of 37°C. The Kitchen controller does not have priority if a Bathroom controller is on.

To operate the Kitchen controller:

1. Turn off the Bathroom controller/s.

If a temperature setting is displayed and the priority light is not glowing, it is necessary to turn off the Bathroom controller/s to gain priority. See notes below.

2. Turn on the Kitchen controller by pressing the on/off button.

The light in the on/off button and the priority light will both glow. The Kitchen controller temperature setting will be displayed. This is the lower of the previous setting and 50°C.

3. Select the temperature setting by pressing the up (▲) button or down (▼) button.

Refer to Temperature Adjustment on page 7. The selected temperature setting will be displayed on all controllers.

4. Open the hot tap.

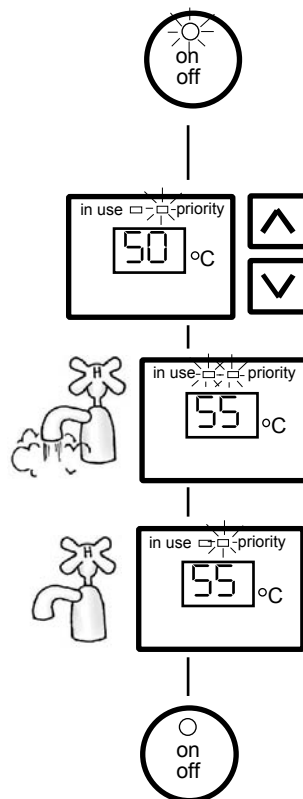
The in use light will glow on all controllers.

5. Close the hot tap.

The in use light will go out on all controllers.

6. Turn off the Kitchen controller by pressing the on/off button.

The priority light, on/off light and temperature display will go out.



Important: Turn off the Kitchen controller after hot water usage is finished in the kitchen and/or laundry. Refer to **Important** note for Bathroom controllers on page 11.

Notes on the Kitchen controller:

- The Bathroom controller/s can be turned off from the Kitchen controller. Press and hold the on/off button on the Kitchen controller for three seconds. This turns off all the controllers and the displays go blank. If hot water is flowing from a hot tap, it will go cold.
- The controller cannot be turned on whilst a hot tap is open.
- The Kitchen controller must have priority in order to adjust the temperature setting on the Kitchen controller.

TEMPERATURE CONTROL

BATHROOM CONTROLLERS

The Bathroom controller/s allow the user to select the temperature setting for the hot water to be used in the bathroom. It has a maximum temperature setting of 50°C and a minimum temperature setting of 37°C. The Bathroom controllers operate in tandem. Whenever an operation is selected on one Bathroom controller, it is also set on the other Bathroom controller. The Bathroom controllers automatically have priority if they are on.

Important: It is important to turn on the Bathroom controller and gain priority before opening a hot tap in the bathroom. If the Kitchen controller is on and has priority, then it is possible to receive water at a temperature higher than expected from a hot tap in the bathroom. This temperature could be up to 50°C if a temperature limiting device is installed in the hot pipe to the bathroom or up to 60°C if a temperature limiting device is not installed.

To operate a Bathroom controller:

1. Turn on the Bathroom controller by pressing the on/off button.

The light in the on/off button and the priority light will both glow. The temperature setting of 40°C will be displayed.

2. Select the temperature setting by pressing the up button (▲) or down button (▼) button.

Refer to Temperature Adjustment on page 7. The selected temperature setting will be displayed on all controllers.

3. Open the hot tap.

The in use light will glow on all controllers.

4. Close the hot tap.

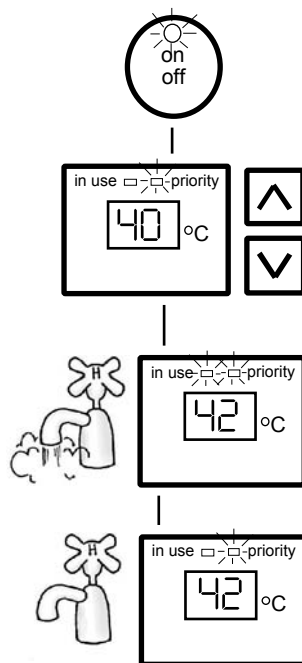
The in use light will go out on all controllers.

It is advised not to turn off the Bathroom controller/s at the Bathroom controller. Refer to the warning in the notes below.

Notes on the Bathroom controllers

- The controller cannot be turned on whilst a hot tap is open.
- When a Bathroom controller is turned on, it gains priority from the Kitchen controller.
- The Kitchen controller can be turned off from a Bathroom controller. Press and hold the on/off button on a Bathroom controller for three seconds. This turns off all the controllers and the displays go blank. If hot water is flowing from a hot tap, it will go cold.
- The Bathroom controller must be on in order to adjust the temperature setting on the Bathroom controller.

Warning – It is advised to leave the Bathroom controller on after hot water usage is finished in the bathroom. Turning off a controller in one bathroom will also turn off the controller in the other bathroom. The Kitchen controller will gain priority, if it is on, and the temperature setting can be up to 50°C. If a hot tap is open in another bathroom, the water will be delivered at this temperature.



TEMPERATURE CONTROL

WATER VOLUME FUNCTION

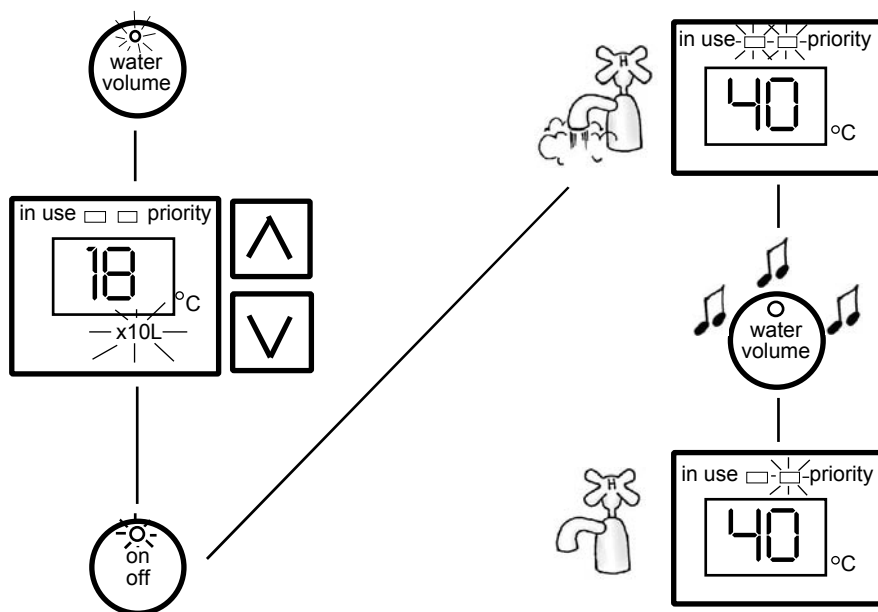
The function provided by the water volume button and alarm is to warn, by a beeping sound, that a certain volume of water has been delivered from the water heater. **It does not stop either the flow of or the heating of water.** This function is particularly useful if a bath is being filled, or measuring the water consumed by the use of a shower. The water volume function can only be set by the Kitchen controller.

Operation

To use the water volume alarm:

1. Press the water volume button.
The light in the water volume button will glow.
The current set water volume (in litres divided by 10) will be displayed and the x10l indicator will also glow.
Eg. the factory preset water volume of 180 litres is shown as 18 x10l.
2. Adjust the water volume setting (if necessary).
To adjust the water volume setting, press the up (▲) button to increase the water volume or the down (▼) button to decrease the water volume. Each press of the up (▲) button or down (▼) button will change the water volume setting by 10 litres. Pressing the up (▲) button or down (▼) button continuously will scroll the water volume setting.
Fifteen seconds after the water volume has been selected, the water volume light will start to flash and the selected water volume is set. The water volume light will continue to flash until the alarm sounds.
A maximum of 500 litres (50 and x10l displayed) and a minimum of 10 litres (1 and x10l displayed) can be set with the water volume alarm.
3. Turn on the controller for the room where the hot water is to be used, gain priority and select the temperature setting.
4. Open the hot tap to draw hot water.
Measurement of the water flow at the water heater will commence when the water volume light is flashing and a hot tap is open.
The alarm will sound when the set volume of water has passed through the water heater.
5. Press the water volume button to turn off the alarm.
The water volume light goes out and 0 x10l is displayed momentarily on the controller. The temperature setting of the controller with priority is then displayed.
6. Close the hot tap.

TEMPERATURE CONTROL



Notes:

- The water volume can only be set by the Kitchen controller.
- The Kitchen controller does not require priority nor to be on in order to set the water volume function.
- The water volume function can be set whilst a hot tap is open.
- The water volume alarm will only sound from the kitchen controller.
- The factory preset water volume is 180 litres.
- If a hot water tap is not opened for one hour after the new water volume has been set, then the setting will be automatically cancelled. The water volume resets to the previously set water volume (or the factory preset water volume if no water volume has been set).
- To display the remaining water volume while water is being drawn, press the water volume button. After a few seconds, the display returns to the temperature setting.
- To turn off the water volume function before the alarm sounds, press the water volume button twice.
- The water volume is measured as the water flows through the water heater. Therefore if more than one hot tap is open, the alarm will respond to the total water volume drawn from all taps and the expected water volume from the first tap will be decreased.
- If the hot tap is closed before the set water volume flows through the water heater and the water volume button is left on, then the alarm will sound when the remaining water volume is consumed during a later operation. To prevent the alarm from sounding, press the water volume button twice to turn it off.

SAVE A SERVICE CALL

Check the items below before making a service call. You will be charged for attending to any condition or fault, which is not related to manufacture or failure of a part (refer to Warranty on page 28).

NO DISPLAY ON THE CONTROLLER

- Is the controller turned on? Press the on/off button (refer to Temperature Control on pages 7 to 13).
- Is the water heater plugged in and the power outlet switched on?
- Is power available in the house? Try using another electrical appliance.

COLD WATER FROM HOT TAP

- Is the controller turned on? Press the on/off button (refer to Temperature Control on pages 7 to 13).
- Close the hot tap, wait 10 seconds and open the hot tap again.
- Is the hot tap open enough? The burners will not light if the flow rate is less than 3 L/min.
- Is the water heater plugged in and the power outlet switched on?
- Is power available in the house? Try using another electrical appliance.
- Is the isolation valve in the gas line open?
- Is there a gas supply to the rest of the house? Try lighting another gas appliance.
- Has the gas line been purged of air after installation? Refer to your plumber.



WATER IS TOO HOT OR NOT HOT ENOUGH

- Does the controller you are using have priority? (refer to Temperature Control on pages 7 to 13)

NO WATER FROM HOT TAP

This may indicate a restriction in or failure of the cold water supply to the water heater. Check for water flow at other taps and that the cold water isolation valve (refer to page 18) is fully open.

WATER FLOW FLUCTUATES

Are there other hot taps open, or appliances such as a dishwasher or washing machine, in use at the time? The shower should be adjusted so the hot tap is fully open. To check the flow of the water, ensure only one hot tap (or appliance) is on at one time. More than two hot taps in use at the same time may cause a decrease in the hot water flow from the taps.

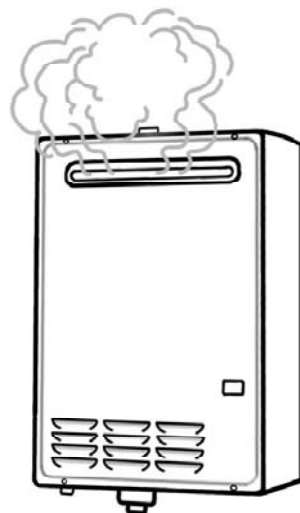
FAN CONTINUES TO RUN AFTER WATER HEATER OPERATION HAS STOPPED

This is normal operation. The fan may run for up to six minutes after the burners extinguish, to prepare for the next ignition.

SAVE A SERVICE CALL

CLOUDS OF WHITE 'SMOKE' FROM FLUE TERMINAL

When the burner is operating, it is not unusual to see water vapour clouds steaming from the flue terminal, particularly on cold days. This is normal operation of the water heater.



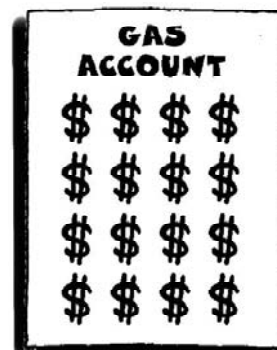
PRESSURE RELIEF VALVE DISCHARGING

A pressure relief valve is incorporated into the water heater controls. This valve protects the water heater, by allowing water to escape, in the event of excessive pressure build up in the waterways.

A small volume of water may discharge from the bottom of the water heater when a hot tap is suddenly closed. A continuous dribble may indicate the water supply pressure is above the design pressure for the water heater. If so, a pressure limiting valve must be installed on the cold water supply pipe to the water heater (refer to Water Supply on page 17).

HIGH GAS BILLS

Is one outlet (especially the shower) using more hot water than you think? Carefully review the family's hot water usage. Inexpensive flow control valves can be easily fitted to the shower outlets to reduce water usage.



ERROR CODE

The water heater provides a diagnostic error code in the event of an interruption to its operation. The error code is displayed on the controller/s (if installed) and on the front of the water heater on the OK MONITOR. If an error code appears:

1. Close the hot tap, turn off the controllers and switch off the power to the water heater.
2. Wait 5 minutes, then switch on the power to the water heater, turn on a controller and open a hot tap.

If the error code persists, turn off the hot tap and turn off the controller. Take note of the code and phone Southcorp Water Heaters Australia or their Accredited Service Agent for service.



INSTALLATION - WATER HEATER

THIS WATER HEATER IS FOR OUTDOOR INSTALLATION ONLY.

THIS WATER HEATER IS NOT SUITABLE FOR POOL HEATING.

Check the water heater is suitable for the gas available (refer to the rating label on the water heater).

WATER HEATER LOCATION

This water heater is an outdoor model and must be mounted on a vertical wall. It must not be installed indoors or in a confined space. The water heater should be installed close to the most frequently used outlet and its position chosen with safety and service in mind. Make sure people (particularly children) will not touch the hot water outlet or the flue terminal. The flue terminal and air inlet must be clear of obstructions and shrubbery.

Clearance must be allowed for servicing of the water heater. The water heater must be accessible without the use of a ladder or scaffold. Ensure the entire front panel can be removed for service. Remember, the entire water heater may have to be removed later for servicing. The water heater dimensions are shown on page 18.

The installation must comply with these installation instructions and with the requirements of AS/NZS 3500.4, AS 5601/AG 601 and any other statutory requirements. In New Zealand, the installation must conform to NZS 5261 Code of Practice for Installation of Gas Appliances and the New Zealand Building Code.

As a guide the following requirements extracted from AS 5601/AG 601 are to be observed.

- At least 300 mm between the top of the water heater and the eaves.
- At least 500 mm horizontally between the water heater and the edge of any opening into the building.
- At least 300 mm between the water heater and a return wall or external corner, measured horizontally along the wall.
- At least 1500 mm below any openable window.
- At least 1500 mm between the water heater and any opening into a building, in the direction of the flue discharge.

FITTING THE WATER HEATER

Mount the water heater on the wall using suitable hanging screws, two each at the top and bottom of the unit (refer to page 18 for mounting hole positions).

The water heater must be installed vertically with the water, gas and power connections on the underside, pointing toward the ground.



INSTALLATION - WATER HEATER

FLUEING

This water heater does not require additional flueing. A secondary flue must not be installed.

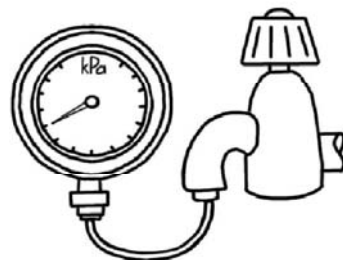
FROST PROTECTION

The water heater may have frost protection. Refer to the rating label on the water heater. The frost protection system will protect the water heater from damage, by preventing ice forming in the waterways of the water heater, in the event of freezing occurring. Models without frost protection are not covered under warranty for damage caused by freezing and must not be installed in areas subject to frost conditions. The frost protection system will be rendered inoperable if electrical power is not available at the water heater. Damage to the water heater caused by freezing of the pipework to or from the water heater is not covered under warranty. Refer to AS/NZS 3500 for precautions to be taken for installations in frost prone areas. The water heater is not suitable for installation in areas where the ambient temperature falls below -20°C (including wind chill factor).

WATER SUPPLY

Where the water supply pressure exceeds that shown below, an approved pressure limiting valve is required and should be fitted as shown in the installation diagram (refer to page 18).

Model	Water Pressure kPa	
	Maximum	Minimum *
18	1000	140
20	1000	140
24	1000	140



* minimum water supply pressure required to achieve the rated flow and performance.

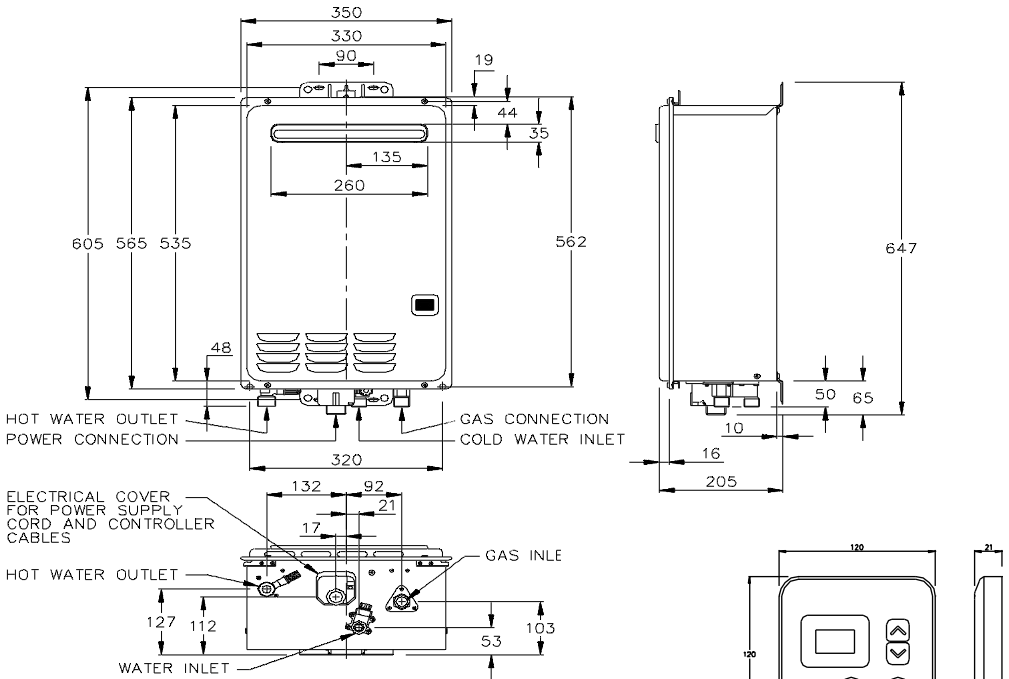
Notes:

- It is not recommended to install this water heater with a low pressure water supply.
- This water heater is not suitable for connection to bore water or spring water unless a water treatment device is fitted.
- If sludge or foreign matter is present in the water supply, it is recommended a suitable filter be incorporated in the cold water supply pipe to the water heater.
- Refer to Water Supplies on page 27.

HOT WATER DELIVERY

The delivery water temperature requirements of AS/NZS 3500.4 must be considered. We recommend and it may also be required by regulations, that a temperature limiting device be fitted for any ablution area, such as a bathroom or ensuite.

DIMENSIONS



HOT WATER OUTLET

Provide a union for disconnection.
Insulate pipe.

COLD WATER INLET

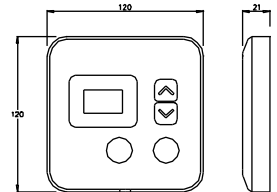
The cold water supply pipe is to be fitted with an approved gate or ball valve and union.

PIPE INSULATION

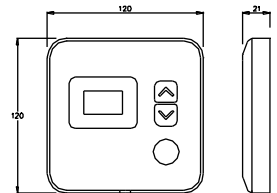
Adequate insulation is required on the cold and hot pipes, to the underside of the water heater, in frost prone areas (refer to AS/NZS 3500).

GAS INLET

The gas supply pipe is to be fitted with an isolation valve and union.

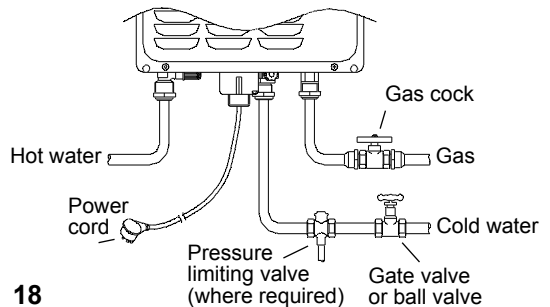


Kitchen Controller



Bathroom Controller

WATER AND GAS CONNECTION DETAIL



CONNECTIONS - PLUMBING

CONNECTION SIZES

Model	871 018	871 020	871 024
Hot Water Connection	R $1\frac{1}{2}$ /15	R $3\frac{3}{4}$ /20	R $3\frac{3}{4}$ /20
Cold Water Connection	R $1\frac{1}{2}$ /15	R $3\frac{3}{4}$ /20	R $3\frac{3}{4}$ /20
Gas Connection	R $3\frac{3}{4}$ /20	R $3\frac{3}{4}$ /20	R $3\frac{3}{4}$ /20
Thermal Input (MJ)	157	157	188
Weight (kg)	20	20	21

Notes:

- It is essential all pipe connections be correctly aligned, otherwise component connections within the water heater may be strained and/or components themselves misaligned. It is recommended also, wherever possible, pipe connections be made at the water heater first and final pipe runs be made in soft copper pipe to allow some adjustment for misalignment.
- Care should be taken not to twist the water inlet and outlet pipes inside the jacket.
- All pipes should be well flushed before connections are made.

HOT WATER OUTLET

For the position of the hot water outlet, refer to page 18. A disconnection union must be provided. Insulation used on the hot pipe must extend up to the hot water outlet of the water heater. The hot water pipe runs should be as short as possible to service the outlets. The hot water pipe should be sized to ensure adequate hot water flow to all outlets. The recommended pipe size is DN20.

COLD WATER INLET

An approved gate valve or ball valve and disconnection union must be fitted on the cold water supply pipe before the water heater (refer to page 18). **Do not fit a non-return valve or stop cock.** The cold water supply pipe should be sized to ensure adequate flow. The recommended pipe size is DN20.

GAS INLET

The pipe work must be cleared of foreign matter before connection and purged before attempting to operate the water heater. An isolation valve and disconnection union must be used to allow for servicing and removal of the water heater. Refer to the AGA Gas Installation Code for the correct pipe sizing.

Note: The pipe size selection must take into account the high gas input of this water heater (refer to table on page 19) as well as all of the other gas appliances in the premises.

CONNECTIONS - ELECTRICAL

The water heater is supplied with a 1.8 metre lead and plug and requires a 240 volt, 50 Hertz electricity supply. A weatherproof power point is required. The power point must be clear of the flue exhaust, draining water, gas supply pipe and water connections.

COMMISSIONING

All water heaters are tested and adjusted before dispatch, however further adjustments may become necessary because of local conditions.

TO TURN ON THE WATER HEATER

Open all of the hot taps in the house (don't forget the shower). Open the cold water isolation valve fully. Air will be forced out of the taps. As water flows freely from each tap, close it.

Open the gas isolation valve fully. Plug the water heater in and switch the power outlet on. The water heater will now operate when a hot tap is opened.

Check to ensure the flow from each connected hot tap is sufficient to operate the water heater. The minimum operating flow rate for all models is 3 litres per minute.

The automatic water governor incorporated in the water heater is not adjustable.

GAS INLET PRESSURE

IMPORTANT - CHECK the gas supply pressure at the inlet to the water heater with the water heater and all other gas burning appliances in the premises operating (burners alight). The minimum gas supply pressures are:

Natural Gas	1.13 kPa	Propane	2.75 kPa.
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If this minimum cannot be achieved, it may indicate the meter or the supply pipe to the water heater is undersized.

BURNER GAS PRESSURE

It is necessary to check the burner gas pressure at both the minimum and maximum operational settings. The hot water must be flowing and the burners on to check and if necessary adjust the operational gas pressures.

- Ensure the burners are not operating. Close any hot taps and turn off the gas supply at the gas isolation valve.
- Remove the screws holding the front panel to the jacket.
- Gently disengage the front panel and pull forward to disengage from the flue terminal.
- Locate the burner pressure test point on the main burner manifold and connect a manometer.
- Turn on the gas supply at the gas isolation valve.

COMMISSIONING

Minimum test point gas pressure

Refer to the rating label on the water heater for the minimum test point gas pressure.

1. Open a hot tap slowly until the burners ignite.
2. Press and hold down the MIN button ("1L" is shown on the LED display), and observe the reading on the manometer.
3. Release the MIN button. If the manometer reading observed in Step 2 agrees with the rating label, no further adjustment is required.
4. To adjust, press and hold down the adjuster button ("LH" is shown on LED display).

Note: The adjuster button must be held down continuously through steps 4 to 6.

5. Press the MIN button and observe the reading on the manometer.

Note: While the MIN button is pressed, the gas pressure will at first increase then decrease, cycling between an upper gas pressure limit (39 on LED display) and a lower gas pressure limit (01 on LED display).

6. Release the MIN button when the reading on the manometer agrees with the rating label.
7. Release the adjuster button.

Notes:

- If the burners extinguish and/or an error code starts to flash on the display, release the MIN and adjuster buttons, close the hot tap, clear the error code, turn on the water heater and recommence the procedure from Step 1.
- If the adjuster button is released before Step 6, clear any error code (if displayed) and recommence the procedure from Step 1.
- To clear an error code, refer to Error Code on page 15.

Maximum test point gas pressure

Refer to the rating label on the water heater for the maximum test point gas pressure. Follow Steps 1 to 7 above, but open the hot tap fully and use the MAX button instead of the MIN button (NOTE: In Step 2, "3H" or "4H" will be shown on the LED display, depending on the model of the water heater).

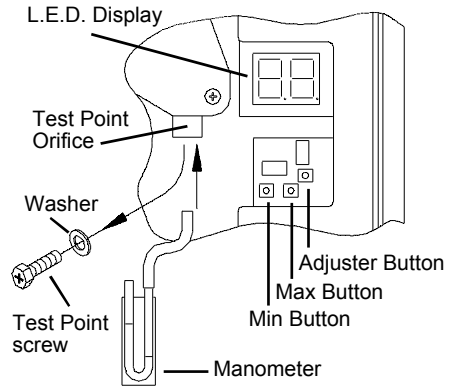
After setting the minimum and maximum test point gas pressures, close the hot tap, remove the manometer and refit and tighten the test point screw. Open a hot tap again so the burners ignite, then test for gas leaks. Replace the front panel and refit screws. Close the hot tap.

TO TURN OFF THE WATER HEATER

If it is necessary to turn off the water heater on completion of the installation, such as on a building site or where the premises is vacant, then:

- Close the gas and water isolation valves at the inlets to the water heater.
- Switch off the electrical supply at the power outlet to the water heater.
- Drain the water heater (refer to Draining the Water Heater on page 6).

Note: The frost protection system will be rendered inoperable if electrical power is not available at the water heater. Damage caused by freezing due to the unavailability of power at the water heater is not covered by warranty (refer to Warranty Exclusions on page 28). If there is a risk of freezing, then it is necessary to drain the water heater (refer to Draining the Water Heater on page 6).



INSTALLATION - CONTROLLERS

CONTROLLERS

There are three types of Rheem controllers suitable for installation with this water heater. They are the Kitchen controller (Rheem PN 299853), Bathroom1 controller (Rheem PN 299854) and the Bathroom2 controller (Rheem PN 299855). They are designed to be hard wired into the water heater using either the Kitchen controller cable (Rheem PN 299856) or the Bathroom controller cable (Rheem PN 299857).

Notes:

- Only one of each type of controller can be connected to the water heater. Therefore, only a maximum of three controllers can be connected to each water heater.
- Extension cables are available from Rheem. Alternatively, the cables may be extended using two-core flex with a minimum cross-sectional area of 0.5 mm².
- No other manufacturers' controllers are suitable for connection to this water heater.

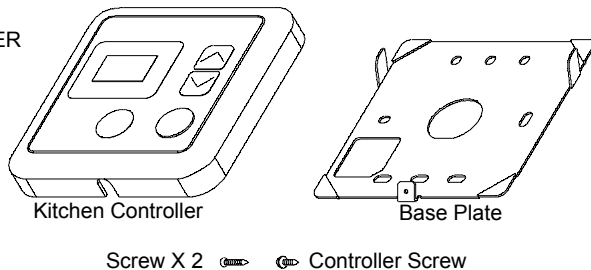
Location

The controllers **must be installed in dry, shaded and clean locations.**

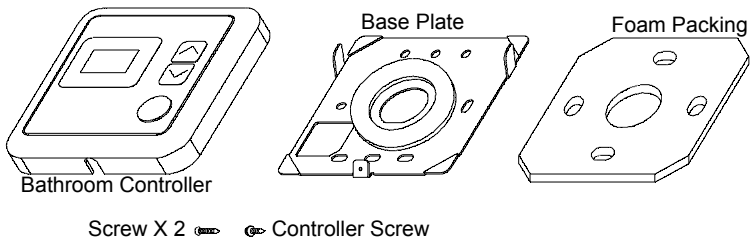
Do not install the controllers:

- Near a heat source, such as a cook top, stove or oven. Heat, steam and smoke will interfere with the electronic components of the controllers.
- In direct sunlight.
- In or near a wet area. The controllers are not waterproof. Water may damage the controllers.
- Outdoors. The controllers are not weatherproof.

KITCHEN CONTROLLER COMPONENTS



BATHROOM1 AND 2 CONTROLLER COMPONENTS



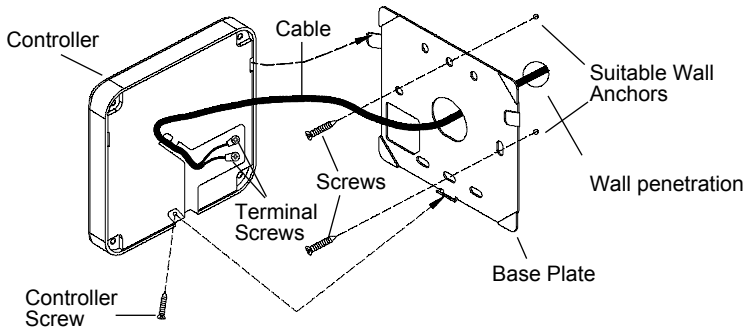
INSTALLATION - CONTROLLERS

KITCHEN CONTROLLER

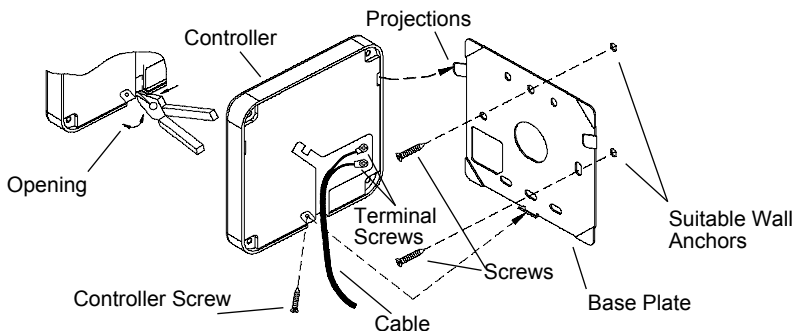
The Kitchen controller (Rheem PN 299853) is to be installed in the kitchen or laundry only. It allows a maximum temperature setting of 60°C. Choose a suitable location for the Kitchen controller, away from heat, sunlight and water.

Wiring installation:

1. Penetrate the wall with a 30-35 mm hole at the controller location.
2. Install the Kitchen controller cable between the location of the controller and the water heater.
3. Remove the base plate from the controller.
4. Draw the cable through the central hole in the base plate.
5. Fix the base plate to the wall using suitable screws and wall anchors. Ensure the projections in the base plate are pointing upwards.
6. Connect the cable to the two terminals on the back of the controller (not polarity sensitive). Ensure the connecting screws are seated tightly.
7. Place the controller over the base plate. Ensure the projections in the base plate fit into the housings in the controller.
8. Fix the controller to the base plate at the bottom of the controller, using the screw provided.
9. Proceed to "Connecting to the Water Heater" on page 25.



If it is necessary to have an exposed wiring installation, follow this procedure omitting Steps 1 and 4, and make an opening in the thin section in the underside of the controller to accommodate the cable (as shown in the diagram), prior to Step 6.



INSTALLATION - CONTROLLERS

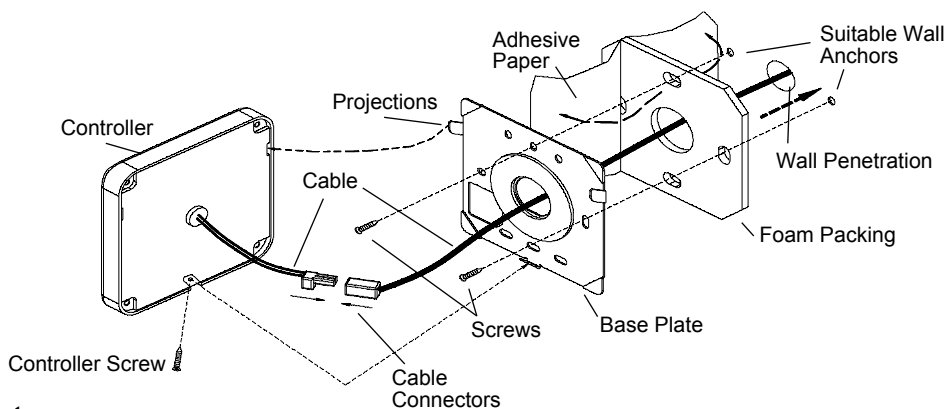
BATHROOM1 AND BATHROOM2 CONTROLLERS

If only one Bathroom controller is to be installed, the Bathroom1 Controller (Rheem PN 299854) must be used. If two Bathroom controllers are to be installed, one must be a Bathroom1 controller and the other must be a Bathroom2 controller (Rheem PN 299855). Both types of Bathroom controller allow a maximum temperature setting of 50°C. The method of installation for the Bathroom1 and Bathroom2 controllers is identical.

Choose a suitable location for each Bathroom controller, away from water, heat, and sunlight. The Bathroom controllers are supplied with a 250 mm length of wire with connectors to mate with the Bathroom controller cable.

Wiring installation:

1. Penetrate the wall with a 30-35 mm hole at the controller location.
2. Install the Bathroom controller cable between the location of the controller and the water heater.
3. Remove the base plate from the controller.
4. Peel off one side of the adhesive paper from the foam packing and adhere to the back face of the base plate. This is the side without the projections.
5. Peel off the remaining adhesive paper from the foam packing.
6. Draw the cable through the central hole in the base plate.
7. Fix the base plate to the wall using suitable screws and wall anchors. Ensure the projections in the base plate are pointing upwards.
8. Plug the controller wire into the extension cable.
9. Place the controller over the base plate. Ensure the projections in the base plate fit into the housings in the controller.
10. Fix the controller to the base plate at the bottom of the controller, using the screw provided.
11. Proceed to "Connecting to the Water Heater" on page 25.



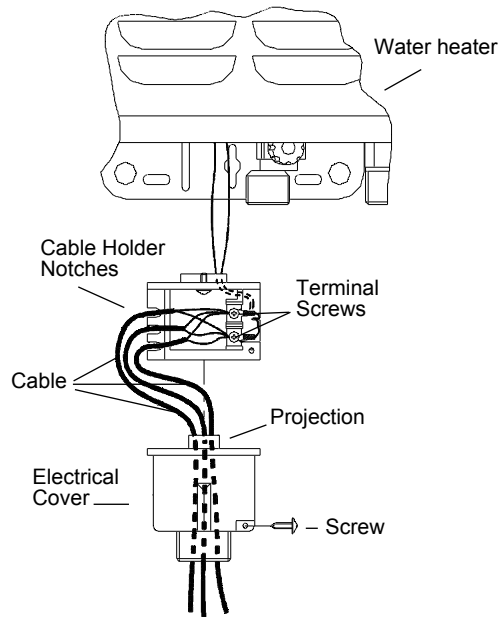
Notes:

- It is not recommended to have exposed wiring in a bathroom.
- Do not apply sealant to the controller cable.

INSTALLATION - CONTROLLERS

CONNECTING TO THE WATER HEATER

1. Ensure the power to the water heater is switched off.
2. Unscrew and gently remove the electrical cover from the water heater.
3. Draw the cable/s through the electrical cover.
4. Connect the cable lugs to the water heater terminals. Ensure the terminal screws are seated firmly.
Note: The cable connections are non-polarised. Three cable terminals, one from each type of controller, can be connected to the one water heater terminal.
5. Place the cable/s in the cable holder notches. It is important to seat the cables into the cable notches. Failure to do this may cause an unstable contact or even disconnection of the cables from the terminals if the cables were to be pulled.
6. Refit the electrical cover to the water heater and replace the screw.
7. Switch on the power supply to the water heater.

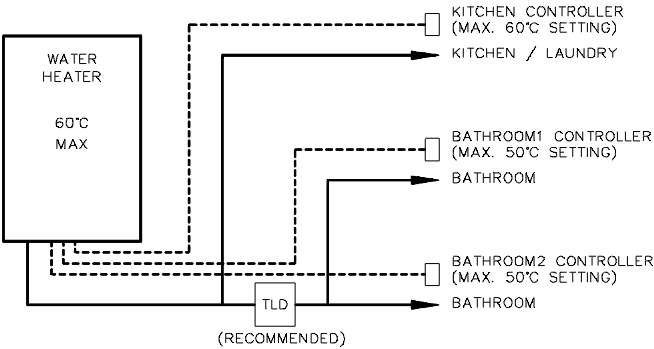


Upon completion of the installation of the controllers, it is necessary to test their operation through the complete range of functions (refer to Temperature Control on pages 7 to 13).

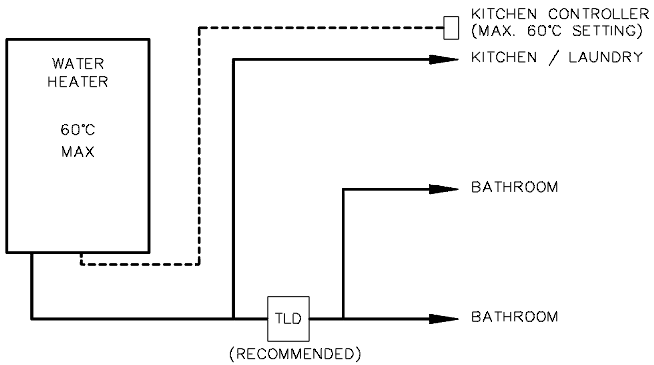
Upon completion and testing of the installation, explain to the householder the functions and operation of the controllers and the water heater.

If it is necessary to turn off the water heater on completion of the installation, such as on a building site or where the premises is vacant, turn off the controllers and follow the procedure, To Turn Off the Water Heater, on page 21.

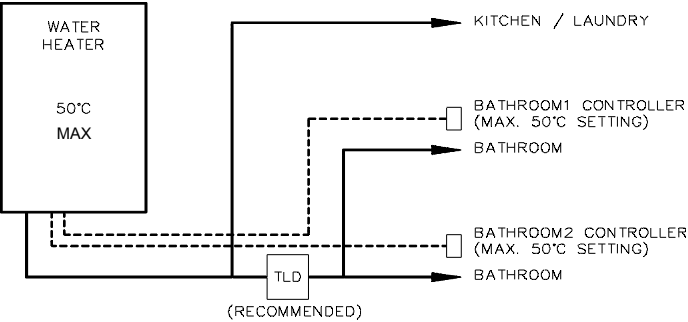
INSTALLATION - DIAGRAMS



INSTALLATION - KITCHEN AND BATHROOM CONTROLLERS

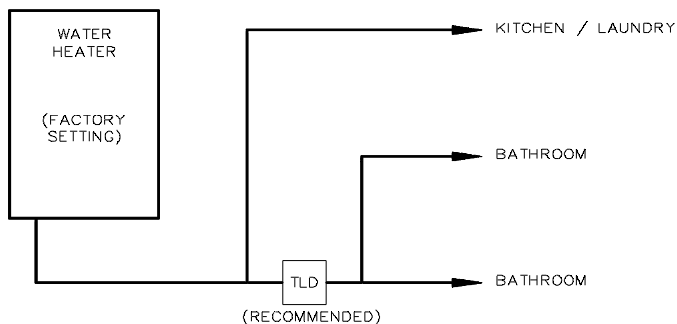


INSTALLATION - KITCHEN CONTROLLER ONLY



INSTALLATION - BATHROOM CONTROLLERS ONLY

INSTALLATION - DIAGRAMS



INSTALLATION - NO CONTROLLERS

TLD = Temperature Limiting Device

Note: Factory preset temperatures are:

50°C for Australia

55°C for New Zealand

WATER SUPPLIES

Your Rheem water heater is manufactured to suit the water conditions of most Australian and New Zealand metropolitan water supplies. However, there are some known water supplies that can have detrimental effects on the water heater and its operation and/or life expectancy. If you are unsure of your water quality, you can obtain information from your local water supply authority.

This water heater is not suitable for connection to bore water or spring water unless a water treatment device is fitted.

RHEEM ELECTRONIC INSTANTANEOUS GAS WATER HEATER WARRANTY (AUSTRALIA AND NEW ZEALAND ONLY)

Southcorp Water Heaters Australia * will:

- a) repair or, if necessary, replace any Rheem water heater; or
- b) replace any component (or, if necessary, arrange the installation of a new water heater),

which falls within the Warranty Periods specified below, in accordance with and subject to the following table and terms and conditions.

Components	Installation	Model	Period	Warranty
All components	Water heater installed in any other than a single family domestic dwelling	All models	Year 1	New water heater (at Southcorp's sole discretion) or component free of charge, ** including labour
	Water heater installed in a single family domestic dwelling	All models	Years 1 to 3	
Heat Exchanger	Water heater installed in a single family domestic dwelling	All models	Years 4 to 10	New heat exchanger free of charge with installation and labour costs being the responsibility of the owner.

Notes:

* Southcorp Water Heaters Australia is the supplier of Rheem electronic instantaneous gas water heaters, manufactured by Paloma Industries Ltd, a world leader in water heater technology and manufacture.

** Refer to item 4 of warranty conditions.

Southcorp Water Heaters Australia reserves the right to transfer fully functional components from the defective water heater to the replacement water heater if required.

WARRANTY CONDITIONS

- This warranty is applicable only to water heaters manufactured from 1st January 2001.
- The water heater must be installed in accordance with the Rheem water heater installation instructions, supplied with the water heater, and in accordance with all relevant statutory and local requirements of the State in which the water heater is to be installed.
- Where a failed component or water heater is replaced under Warranty, the balance of the original warranty period will remain effective. The replaced part or water heater does not carry a new warranty.
- Where the water heater is installed outside the boundaries of a metropolitan area as defined by Southcorp, or further than 25 km from a regional Southcorp Water Heaters Australia branch office, or an Accredited Service Agent, the cost of transport, insurance and travelling costs between the nearest Southcorp Water Heaters Australia Accredited Service Agent's premises and the installed site shall be the owner's responsibility.
- The warranty only applies to the water heater and original or genuine company component replacement parts and therefore does not cover any plumbing or electrical parts supplied by the installer and not an integral part of the water heater, eg. pressure limiting valve, isolation valves, non-return valve, electrical switches, pumps, or fuse.
- The water heater must be sized to supply the hot water demand in accordance with the guidelines in Rheem water heater literature.

WARRANTY EXCLUSIONS

1. REPAIR AND REPLACEMENT WORK WILL BE CARRIED OUT AS SET OUT IN THE RHEEM ELECTRONIC INSTANTANEOUS GAS WATER HEATER WARRANTY ABOVE, BUT THE FOLLOWING EXCLUSIONS MAY CAUSE THE WATER HEATER WARRANTY TO BECOME VOID, AND MAY INCUR A SERVICE CHARGE AND COST OF PARTS.

- a) Accidental damage to the water heater or any component, including: Acts of God, failure due to misuse; incorrect installation; attempts to repair the water heater other than by a Southcorp Accredited Service Agent or the Southcorp Water Heaters Australia Service Department.
- b) Where it is found there is nothing wrong with the water heater; where the complaint is related to excessive discharge from the pressure relief valve due to high water pressure; where there is no flow of hot water due to faulty plumbing; where water leaks are related to plumbing and not the water heater components; where there is a failure of gas, electricity or water supplies; where the supply of gas, electricity or water does not comply with relevant codes or acts.
- c) Where the water heater or water heater component failed directly as a result of: excessive water pressure; excessive temperature and/or thermal input; corrosive atmosphere; ice formation in the pipe work to or from the water heater; ice formation in the waterways of a water heater without a frost protection system; ice formation in the waterways of a water heater with a frost protection system where the electricity supply has been switched off or has failed and the water heater has not been drained in accordance with the instructions; ice formation in the waterways of a water heater with a frost protection system due to an ambient temperature below -20°C (including wind chill factor).
- d) Where the water heater is located in a position that does not comply with the Rheem water heater installation instructions or relevant statutory requirements, causing the need for major dismantling or removal of cupboards, doors or walls, or use of special equipment to bring the water heater to floor level, or to a serviceable position.
- e) Repairs to the water heater due to scale formation in the waterways when the water heater has been connected to a harmful water supply as outlined in the Owner's Guide and Installation Instruction booklet.

2. SUBJECT TO ANY STATUTORY PROVISIONS TO THE CONTRARY, THIS WARRANTY EXCLUDES ANY AND ALL CLAIMS FOR DAMAGE TO FURNITURE, WALLS, FOUNDATIONS OR ANY OTHER CONSEQUENTIAL LOSS EITHER DIRECTLY OR INDIRECTLY DUE TO LEAKAGE FROM THE WATER HEATER.

In addition to this warranty, the Trade Practices Act 1974 and similar laws in each state and territory provide the owner under certain circumstances with certain minimum statutory rights in relation to your Rheem water heater. This warranty must be read subject to that legislation and nothing in this warranty has the effect of excluding or restricting those rights.

FOR SERVICE TELEPHONE

131 031 AUSTRALIA
0800 657 335 NEW ZEALAND
or refer local Yellow Pages

NOTE: Every care has been taken to ensure accuracy in preparation of this publication. No liability can be accepted for any consequences which may arise as a result of its application.

SOUTHCORP WATER HEATERS AUSTRALIA

SOUTHCORP AUSTRALIA PTY. LTD.

A.B.N. 72 004 213 665

31-23313-00 (122083B)